

## The Claims

1. Apparatus for disinfection/pasteurization of fluids comprising:

5

- a) a mercury/gallium metal halide ultraviolet lamp enclosed within an ozone free metallic doped quartz envelope;
  - b) an ozone free, metallic doped quartz enclosure for the lamp; and
  - c) a vessel containing the lamp and enclosure and having an inlet, an outlet and a chamber in fluid communication therewith defining a flow path for fluid to be disinfected/pasturized.

10

15

2. Apparatus according to claim 1, wherein the lamp is in the form of a tube and the enclosure and the vessel are generally cylindrical in shape, with the lamp, enclosure and vessel being in generally concentric relation.

3. Apparatus according to claim 2, wherein the inlet and outlet are at opposite ends of the vessel.

25

4. Apparatus according to claim 2, wherein the diameter of the vessel is about twice the diameter of the enclosure and wherein the diameter of the enclosure is about twice the diameter of the lamp.

30

5. Apparatus according to claim 1, wherein the lamp operates in a wavelength range from about 175 nanometers to about 450 nanometers and at a temperature

ranging from about 600 degrees centrigrade to about 800 degrees centrigrade.

6. Apparatus according to claim 1, wherein the  
5 enclosure allows transmission of ultraviolet radiation  
from the lamp to the fluid without buildup of ozone.

7. A method for disinfection/pasteurization of  
fluids comprising:

10

- a) providing a mercury/gallium metal halide ultraviolet lamp enclosed within an ozone free metallic doped quartz envelope;
- b) providing an ozone free, metallic doped quartz enclosure for the lamp;
- c) providing a vessel containing the lamp and enclosure and having an inlet, an outlet and a chamber in fluid communication therewith defining a flow path for fluid to be disinfected/pasturized; and
- d) operating the lamp to introduce ultraviolet radiation and heat from the lamp into the fluid with the enclosure preventing build up of ozone.

25  
30  
8. The method according to claim 7, wherein the lamp is operated in a wavelength range from about 175 nanometers to about 450 nanometers.

9. The method according to claim 7, wherein the lamp is operated at a temperature ranging from about 600 degrees centrigrade to about 800 degrees centrigrade.

10. The method according to claim 7, wherein the fluid is a liquid.